

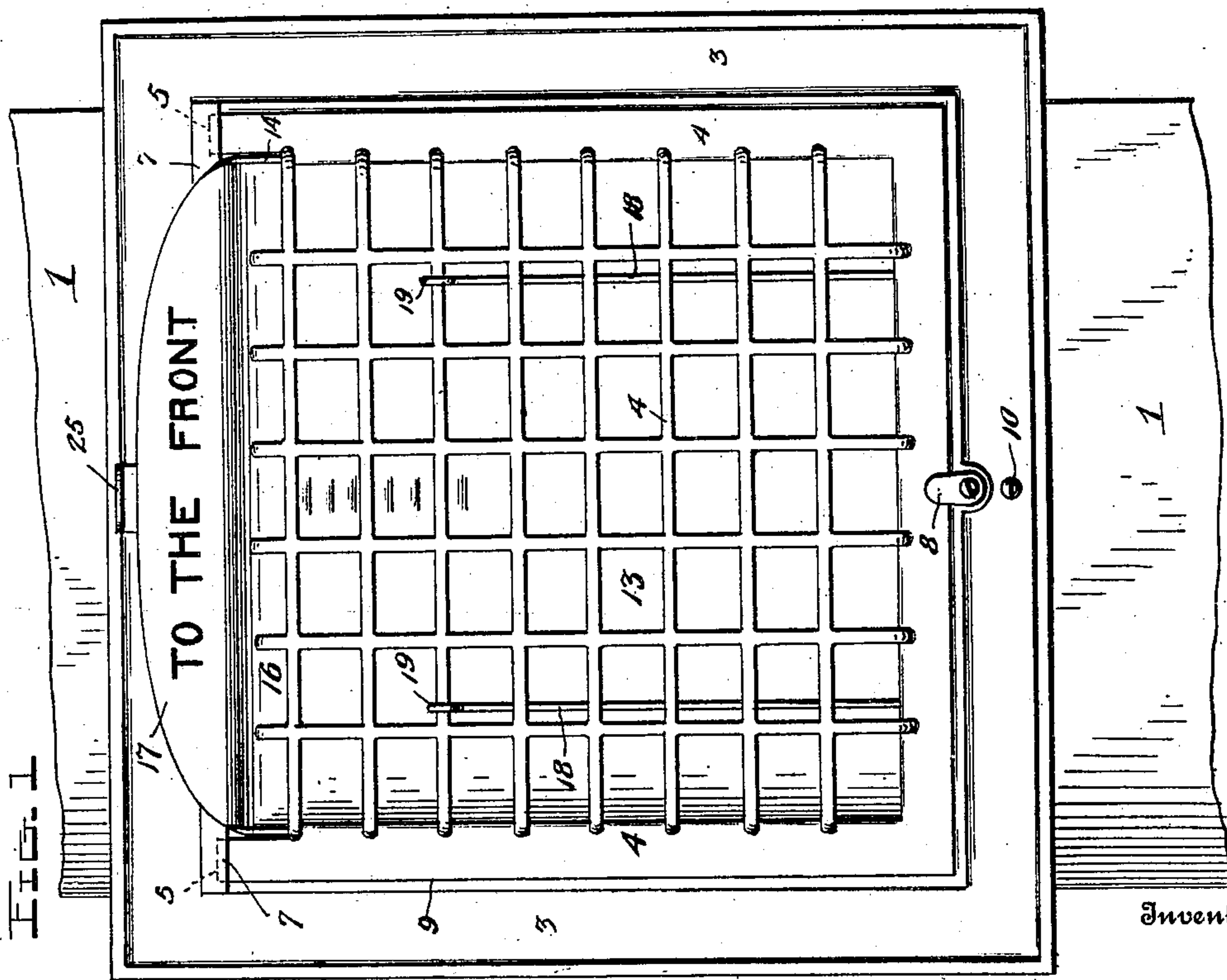
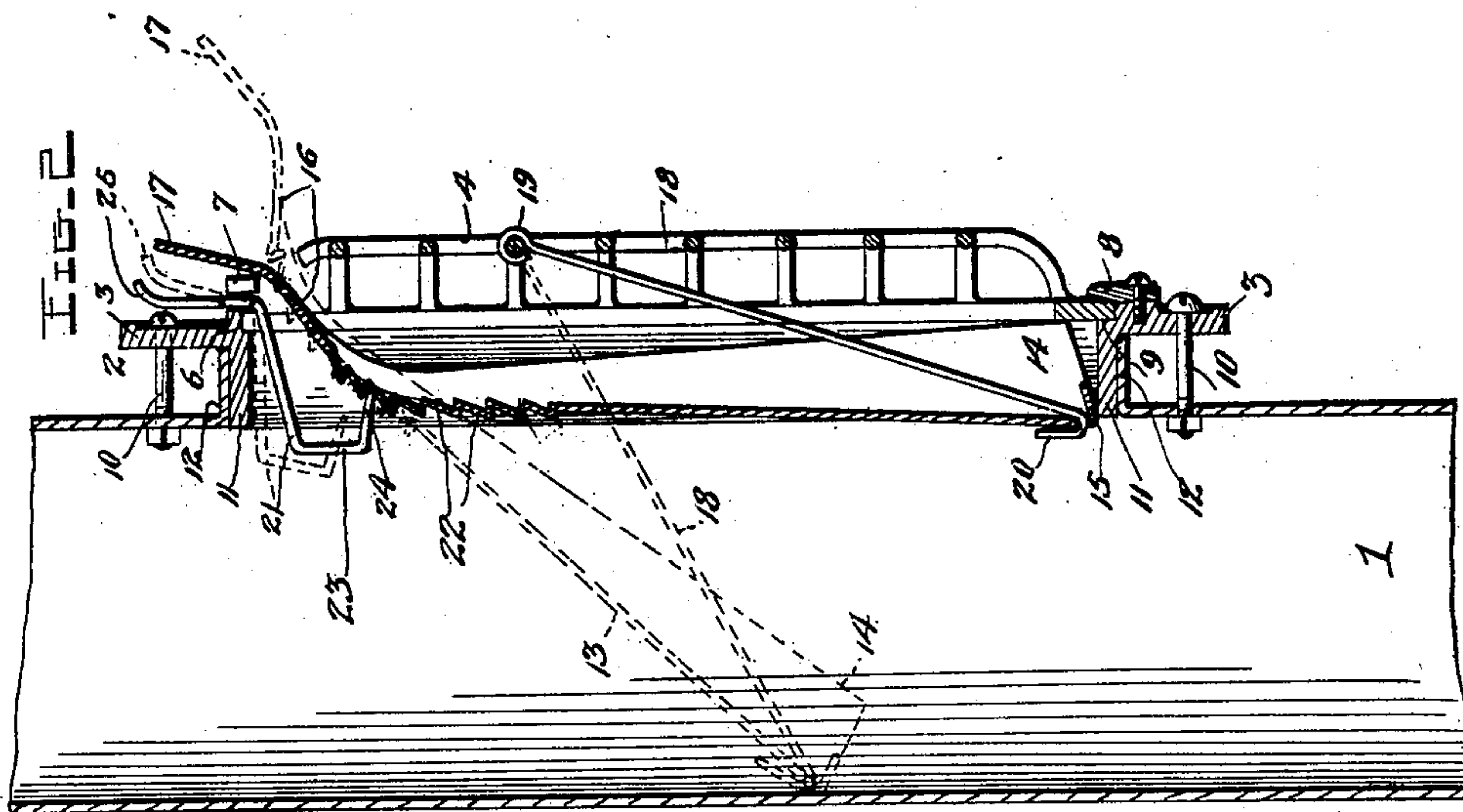
No. 886,463.

PATENTED MAY 5, 1908.

C. J. ANDRAE.
WALL REGISTER.

APPLICATION FILED MAR. 20, 1907.

2 SHEETS—SHEET 1.



Witnesses

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FIG. 3

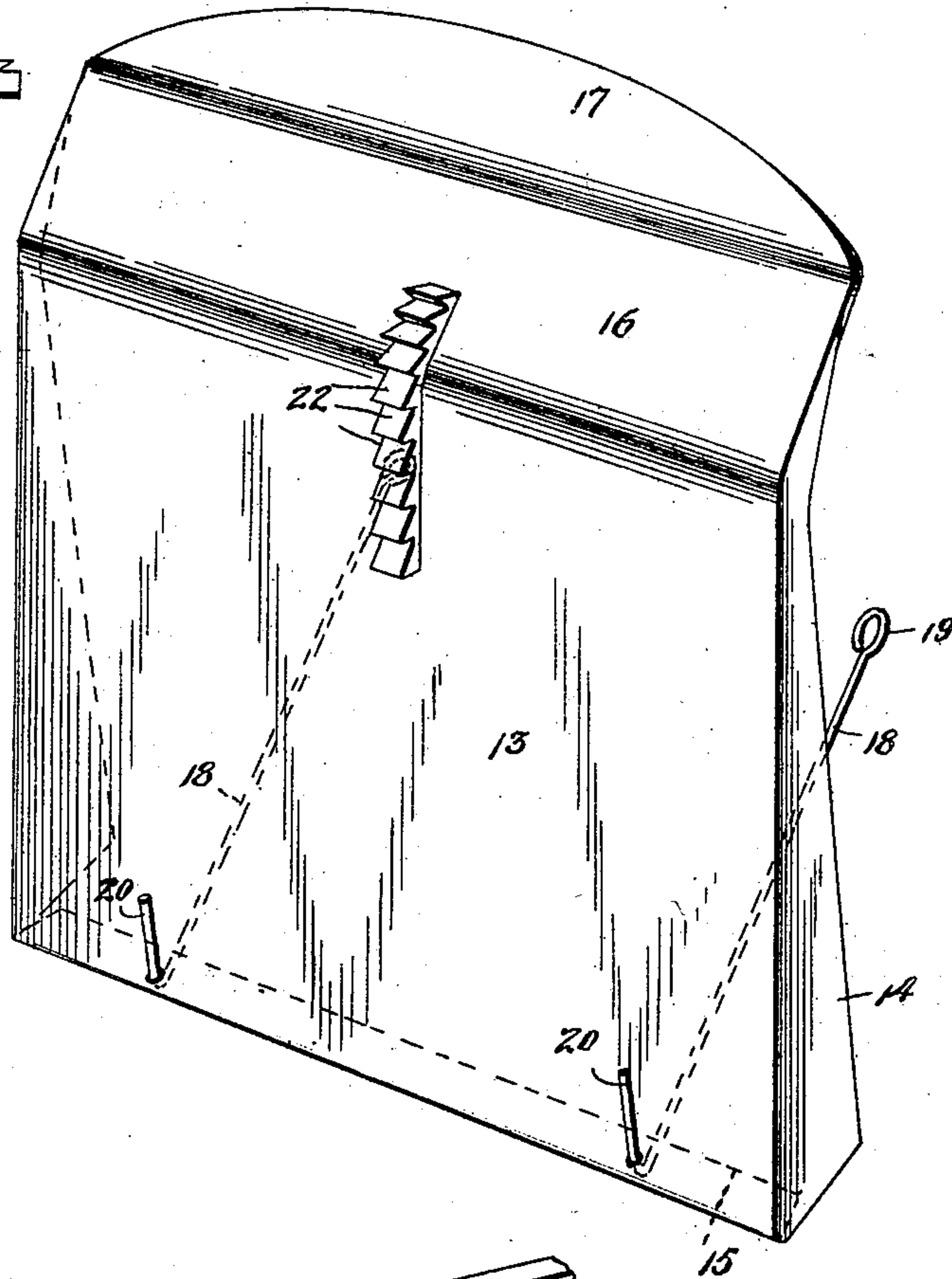
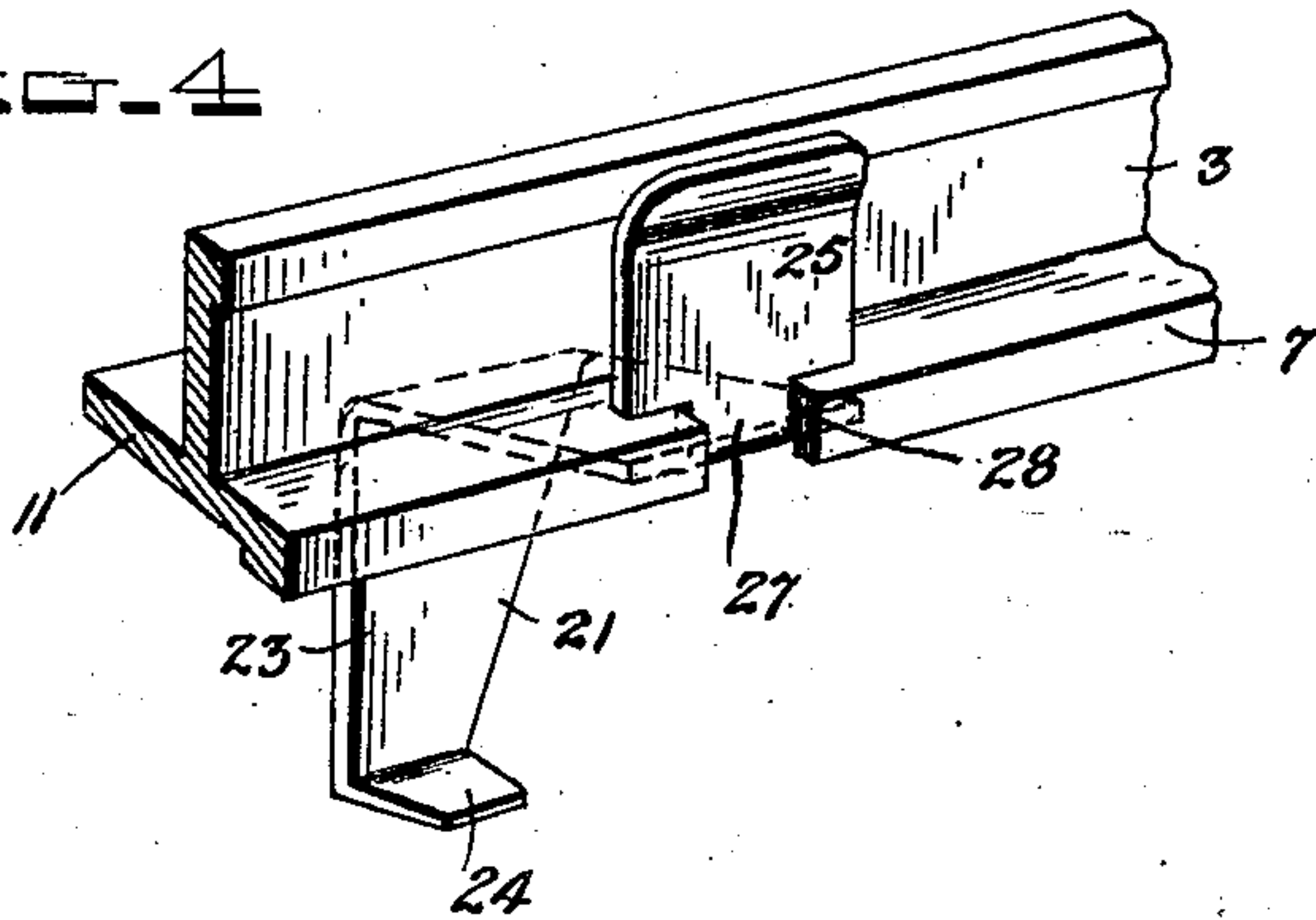


FIG. 4



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UNITED STATES PATENT OFFICE.

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WALL-REGISTER.

No. 886,463.

Specification of Letters Patent.

Patented May 5, 1908.

Application filed March 20, 1907. Serial No. 363,499.

To all whom it may concern:

Be it known that I, CHARLES J. ANDRAE, a citizen of the United States, residing at St. Louis, in the county of St. Louis City and State of Missouri, have invented certain new and useful Improvements in Wall-Registers, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to improvements in valves or dampers for the wall registers of hot air heating systems, and it consists in the features of novelty hereinafter fully described and claimed.

The object of the invention is to provide a wall register with a simple and practical damper or valve plate which may be conveniently operated and adjusted to control the discharge of the hot air and which when in its open position will project beyond the front of the register and serve as a deflector for directing the hot air downwardly.

The above and other objects are accomplished by the preferred embodiment of my invention illustrated in the accompanying drawings, in which

Figure 1 is a front elevation of the wall register; Fig. 2 is a vertical sectional view through the same; Fig. 3 is a perspective view of the valve or damper, looking toward its rear face; and Fig. 4 is a detail perspective of the gravity catch and its support.

Referring to the drawings by numeral, 1 denotes the hot air pipe or conductor over an opening in which is secured my improved wall register 2. The latter, as here shown, comprises a stationary rectangular body 3 having a central opening closed by a grille or openwork cover 4 which is preferably detachably secured in said opening. The detachable connection of the cover 4 is effected by inserting its upper end 5 in a seat 6 formed in a forwardly projecting ledge or rib 7 upon the front of the body 3 at the top of its opening and by providing a pivoted button 8 to engage its lower end or bottom and hold it in a seat 9 formed around said opening in the body or frame 3, as clearly shown in Figs. 1 and 2. The body 3 is bolted, as at 10, or otherwise suitably secured to the pipe 1 and projecting rearwardly from its back face is a surrounding flange 11 which projects into or between flanges 12 formed around the opening in the pipe 1.

The numeral 13 denotes the valve or damper which is constructed of a plate or

sheet of metal and is of rectangular form with its upper end curved outwardly, as seen in Fig. 3. The plate 13 is of such size that when in its vertical position it is adapted to entirely close the opening in the body 3 of the register and when tilted to its inclined position shown in Fig. 2, it extends into and across the pipe 1 to close the same and deflect the hot air outwardly through the grille or cover 4. The plate 13 is provided at its two sides with forwardly projecting flanges 14 and at its bottom with a similar flange 15, its forwardly and upwardly curved top 16 being provided with a curved end 17 adapted to serve as a finger piece and upon which may be marked the words "To the front", or other directions for indicating the manner in which the valve or damper plate should be operated. The curved upper end 16 of said plate projects through the top of the body 3 and its cover 4 and it is suspended and guided by one or more swinging rods or links 18 which have their upper ends formed with eyes 19 which are pivotally connected to the grille or cover 4 and their lower ends formed with hooks 20 which pass through apertures in the bottom of the plate 13 and thus loosely connect the latter and said rods. Owing to this connection, it will be seen that when the finger piece 17 is pulled outwardly or to the front, the links 18 will swing inwardly and cause the upper portion of the plate 13 to move upwardly and outwardly through the opening in the top of the grille and at the same time its lower and inner end swings to an inclined position across the interior of the pipe 1.

In order to retain the damper or valve plate 13 in any of its inclined or angular positions, I provide a gravity catch or dog 21 at the top of the body 3 and a series of ratchet teeth 22 upon the rear face of the plate 13 for engagement by said catch or dog. These ratchet teeth may be formed integral with the plate 13 by stamping them in the same, as shown in Fig. 2, or they may be formed upon a separate strip and suitably secured to said plate, as shown in Fig. 3. The catch or dog 21 is formed from a single piece of metal and is bent to provide a right angular body portion 23 having one of its arms terminating in a forwardly projecting and right angularly bent end 24 which engages the ratchet teeth 22 and its other arm formed with a right angularly bent and upwardly projecting finger piece 25. The latter has its inner

or lower end formed at opposite points with recesses or notches 26 which provide a reduced neck portion 27 adapted to enter a notch or recess 28 formed in the ledge or rib 7 upon the body 3, as clearly shown in Fig. 4. The engagement of the neck 27 with the notch 28 provides a pivotal connection for the ledge, so that when the finger piece 25 is swung forwardly and downwardly, the end 24 will be swung upwardly and rearwardly away from the ratchet teeth 22. When the parts are assembled, the catch or dog 21 will be retained in the notch 28 by the upper portion of the valve plate which is arranged in front of the ledge 7, as will be readily seen upon reference to Fig. 2.

From the foregoing it will be observed that when the damper or valve is in its vertical position shown in full lines in Fig. 2, it will entirely close the opening in the body 3 and thus prevent the escape of hot air through the register. When it is desired to open the latter, the finger piece 17 is pulled to the front. This will swing the valve or damper plate 13 to an inclined position since the rods or links 18 cause its lower end to move upwardly and rearwardly in the arc of a circle. As the plate 13 is thus moved, the ratchet teeth 22 will slip under the catch or dog 21 and the latter will prevent said plate from dropping to its closed position. When the plate 13 has reached the limit of its upward and outward movement, its inner end extends across the pipe 1 and deflects the hot air passing therethrough outwardly through the grille or cover 4 of the register and the curved upper end 16 of said plate projects forwardly in front of the outer face of the register and serves to deflect the hot air forwardly and downwardly, thus causing it to circulate in the room instead of immediately rising to the ceiling. When it is desired to close the register, it is only necessary to press downwardly and forwardly upon the finger piece 25 of the catch, whereupon its inner end 24 will be lifted out of engagement with the ratchet teeth and the valve or damper plate 13 will drop by gravity to its closed position.

Having thus described my invention what I claim and desire to secure by Letters Patent is:

1. A wall register or the like comprising an open rectangular body having a seat at its top, a grille arranged over the opening in said body and having a transverse opening at its

top, a valve plate arranged in the opening in the body in rear of the grille and adapted to have its upper portion project through and swing in said opening in the grille, said upper portion of the plate being curved outwardly and serving as a hand piece, vertically disposed ratchet teeth arranged centrally upon the rear face of the plate adjacent to its top, a pair of suspending links having eyes at their upper end to pivotally engage the cross bars of the grille and hooks at their lower ends to loosely engage the lower portion of the plate and a pivoted pawl having a reduced neck portion to engage the seat in the body, the upper end of the pawl being upon the exterior of the body to provide a finger piece and the lower end of the pawl projecting inwardly and bent to engage the ratchet teeth.

2. A wall register or the like, comprising a body, a valve plate adapted to have its upper end projecting out of said body, a link for pivotally suspending said plate, said link having its upper end connected to a stationary pivot and its lower end to the lower portion of said plate whereby, when the upper end of the latter is pulled out of the body, the lower end of the plate will swing inwardly to an angular position, a vertically extending series of ratchet teeth upon the inner face of said plate adjacent to its top, and a pawl loosely pivoted intermediate its ends to the top of said body and having an outwardly projecting finger piece and a hook shaped inner end to engage said ratchet teeth, substantially as and for the purpose set forth.

3. A wall register or the like, comprising an open body having a seat at its top, a valve plate arranged in said body for sliding and swinging movement, the upper portion of said plate being adapted to be moved into and out of said body, ratchet teeth arranged upon the inner face of said plate, and a pivoted pawl having a reduced neck portion to engage said seat in the body, the upper end of said pawl being upon the exterior of the body to provide a finger piece and the lower end of said pawl projecting inwardly and shaped to engage said ratchet teeth, substantially as described.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

CHARLES J. ANDRAE.

Witnesses:

FRED A. MOSES,
C. L. THOMAS.